

Subject Index of Volume 154

- Activated carbon
Electrochemical capacitor; Microporosity; Surface area; Surface oxygen; Calorimetry (Centeno, T.A. (154) 314)
- Activated carbon
Electrochemical double-layer capacitor; Impedance; Propylene carbonate; Arrhenius (Kötz, R. (154) 550)
- Air bleed
Polymer electrolyte fuel cell; H_2/CO_2 oxidation; Catalyst poisoning; Temperature effects; Model studies (Behm, R.J. (154) 327)
- Air supply
Fuel cell systems; Simulation; Control; Rapid; Prototyping; Fuel processing (Pischinger, S. (154) 420)
- Air supply
PEFC; PEMFC; Fuel cell; Power train; Dynamic operation (Philipps, F. (154) 412)
- Air-breathing PEMFC
Air-breathing PEMFC; Water management; Planar PEMFC; Hydrophobic and hydrophilic diffusion layer; Geometry variation; Printed circuit board (PCB) (Schmitz, A. (154) 437)
- Air–water behaviour
Water management; Proton exchange membrane; Pressure drop; Parallel serpentine channels; CFD modeling (Jiao, K. (154) 124)
- Alkaline battery
Alkaline battery; Nickel metal hydride; Hybrid battery; Battery management; Battery monitoring; Bipolar battery (Markolf, R. (154) 539)
- Alkaline solution
Nickel-zeolite; Impregnated silicalite-1; Electro-catalyst; Methanol oxidation (Abdel Rahim, M.A. (154) 59)
- All-solid-state batteries
Chemical diffusion coefficient; Li-ion batteries (Schwenzel, J. (154) 232)
- Ammonia poisoning
PEM fuel cells; Membrane conductivity; Hydrogen oxidation; Oxygen reduction (Halseid, R. (154) 343)
- ANN modeling
Rechargeable bipolar battery; Zn-polyaniline; Carbon doped polyethylene (CDPE); Battery available capacity (BAC); Simultaneous prediction (Karami, H. (154) 298)
- Anode
Anode; Li-ion batteries; $Li_4Ti_5O_{12}$; Rate; Conductivity (Wolfenstine, J. (154) 287)
- Anodes
Fuel cells; Ceria; Copper (Jung, S. (154) 42)
- APU
APU; SOFC; Diesel reformer (Lawrence, J. (154) 479)
- APU
Diesel fuel processor; Autothermal reforming; Steam reforming; PEM fuel cells (Cutillo, A. (154) 379)
- Architecture
Direct fuel cell; Passive; Bi-cell; Flow field; MEA morphology (Qian, W. (154) 202)
- Arrhenius
Electrochemical double-layer capacitor; Impedance; Propylene carbonate; Activated carbon (Kötz, R. (154) 550)
- Artificial intelligence
Neural network; Fuel cell (Ogaji, S.O.T. (154) 192)
- Automotive
Gasoline fuel processor; On-board hydrogen production; Polymer electrolyte membrane fuel cell; Response time; Battery size (Mitchell, W. (154) 489)
- Automotive applications
Ultracapacitors; Test procedures; Automotive specifications; United States Advanced Battery Consortium (Ashtiani, C. (154) 561)
- Automotive fuel cell
Fuel processor; Fast start; Reformer; Hydrogen; Gasoline (Ahmed, S. (154) 214)
- Automotive specifications
Ultracapacitors; Test procedures; Automotive applications; United States Advanced Battery Consortium (Ashtiani, C. (154) 561)
- Autothermal reforming
Diesel fuel processor; Steam reforming; PEM fuel cells; APU (Cutillo, A. (154) 379)
- Autothermal reforming
Diesel; Kerosene; Fuel cell; Auxiliary power unit (Aicher, T. (154) 503)
- Autothermal reforming
Hydrogen; Fuel processing; Sulfur poisoning; Diesel reforming; Catalyst (Cheekatamarla, P.K. (154) 223)
- Auxiliary power unit
Diesel; Kerosene; Autothermal reforming; Fuel cell (Aicher, T. (154) 503)
- Auxiliary power unit
SOFC stack; Diesel reformate (Stelter, M. (154) 448)
- Balance hydrogen evolution and grid corrosion
VRLA batteries; Cycling in state of partial charge (Berndt, D. (154) 509)
- Battery available capacity (BAC)
Rechargeable bipolar battery; Zn-polyaniline; Carbon doped polyethylene (CDPE); ANN modeling; Simultaneous prediction (Karami, H. (154) 298)
- Battery dynamic
Battery dynamic; Battery impedance; State of charge; State of health (Jossen, A. (154) 530)
- Battery impedance
Battery dynamic; State of charge; State of health (Jossen, A. (154) 530)
- Battery management
Alkaline battery; Nickel metal hydride; Hybrid battery; Battery monitoring; Bipolar battery (Markolf, R. (154) 539)
- Battery monitoring
Alkaline battery; Nickel metal hydride; Hybrid battery; Battery management; Bipolar battery (Markolf, R. (154) 539)
- Battery size
Gasoline fuel processor; On-board hydrogen production; Automotive; Polymer electrolyte membrane fuel cell; Response time (Mitchell, W. (154) 489)
- Bi-cell
Direct fuel cell; Architecture; Passive; Flow field; MEA morphology (Qian, W. (154) 202)

- Bi-layer
 - SOFC; Interconnection; p-Type; n-Type (Huang, W. (154) 180)
- Biofuels
 - Biomass; Organic waste; Fuel cells; Reformers (Gair, S. (154) 472)
- Biomass
 - Biomass; Biofuels; Organic waste; Fuel cells; Reformers (Gair, S. (154) 472)
- Bipolar battery
 - Alkaline battery; Nickel metal hydride; Hybrid battery; Battery management; Battery monitoring (Markolf, R. (154) 539)
- Bipolar plate
 - Bipolar plate; Graphite composite; Injection moulding (Müller, A. (154) 467)
- Calorimetry
 - Electrochemical capacitor; Activated carbon; Microporosity; Surface area; Surface oxygen (Centeno, T.A. (154) 314)
- Capacity fading
 - α -LiMnO₂ cathode; Li and F additions; Elevated-temperature cycling; Lithium-ion batteries; Rate capability (Kim, T.-J. (154) 268)
- Carbon doped polyethylene (CDPE)
 - Rechargeable bipolar battery; Zn-polyaniline; Battery available capacity (BAC); ANN modeling; Simultaneous prediction (Karami, H. (154) 298)
- Carbon fiber
 - Polyaniline; DMcT; Composites; Charge-discharge tests (Canobre, S.C. (154) 281)
- Catalyst
 - Hydrogen; Autothermal reforming; Fuel processing; Sulfur poisoning; Diesel reforming (Cheekatamarla, P.K. (154) 223)
- Catalyst poisoning
 - Polymer electrolyte fuel cell; H₂/CO₂ oxidation; Air bleed; Temperature effects; Model studies (Behm, R.J. (154) 327)
- Cathode activation
 - Solid oxide fuel cells; Dynamic behaviour; Thermal cycling; Degradation (Molinelli, M. (154) 394)
- Cathode materials
 - Li ion batteries; Electrochemical properties; Sol-gel synthesis (Majumder, S.B. (154) 262)
- Cathode-supported
 - Mechanistic modelling; Tubular SOFC; Momentum transport; Heat/mass transport; Charge transport (Suwanwarangkul, R. (154) 74)
- Cell voltage balancing
 - Ultracapacitors; Ultracap modules; Temperature characteristics; Frequency characteristics; Selfdischarge (Michel, H. (154) 556)
- Ceria
 - Fuel cells; Copper; Anodes (Jung, S. (154) 42)
- Ceria
 - Solid electrolyte; Co-doping; Microstructure; Impedance spectroscopy (Tadokoro, S.K. (154) 1)
- CFD modeling
 - Water management; Proton exchange membrane; Pressure drop; Parallel serpentine channels; Air-water behaviour (Jiao, K. (154) 124)
- Charge transport
 - Mechanistic modelling; Tubular SOFC; Cathode-supported; Momentum transport; Heat/mass transport (Suwanwarangkul, R. (154) 74)
- Charge-discharge tests
 - Polyaniline; Carbon fiber; DMcT; Composites (Canobre, S.C. (154) 281)
- Chemical diffusion coefficient
 - Chemical diffusion coefficient; All-solid-state batteries; Li-ion batteries (Schwenzel, J. (154) 232)
- Chemical grafting
 - Miniature fuel cell; Porous silicon; Membrane; Nafion®; Integration (Pichonat, T. (154) 198)
- Co-doping
 - Solid electrolyte; Ceria; Microstructure; Impedance spectroscopy (Tadokoro, S.K. (154) 1)
- Cold start
 - PEMFC; Portable fuel cells; Statistical analysis; Degradation (Oszcipok, M. (154) 404)
- Cold-start
 - PEMFC; Free-breathing; Freezing; Planar cell (Hottinen, T. (154) 86)
- Commercialisation
 - Molten carbonate fuel cells; Field tests (Bischoff, M. (154) 461)
- Compatibilization
 - Fuel cells; Proton exchange membrane; PVDF; SEBS; Melt blending (Mokrini, A. (154) 51)
- Composites
 - Polyaniline; Carbon fiber; DMcT; Charge-discharge tests (Canobre, S.C. (154) 281)
- Computer simulation
 - Micro single-chamber intermediate temperature solid oxide fuel cell; Macro modelling; Polarization curve prediction (Chung, C.-Y. (154) 35)
- Conductivity
 - Anode; Li-ion batteries; Li₄Ti₅O₁₂; Rate (Wolfenstine, J. (154) 287)
- Control
 - Fuel cell systems; Simulation; Rapid; Prototyping; Air supply; Fuel processing (Pischinger, S. (154) 420)
- Copper
 - Fuel cells; Ceria; Anodes (Jung, S. (154) 42)
- Cost
 - Oil; Hydrogen; Fuel cells; Reliability; European union research (Zegers, P. (154) 497)
- Cryogenic
 - Hydrogen; High pressure; Hydrides; Energy density; Tank systems (Eberle, U. (154) 456)
- Current density distribution
 - PEFC; Numerical analysis; Gas flow rate distribution; Separator (Inoue, G. (154) 18)
- Current density distribution
 - PEFC; Numerical analysis; Relative humidity distribution; Membrane; Gas diffusion layer (Inoue, G. (154) 8)
- Current density distribution
 - Polymer electrolyte fuel cell; In situ measurement (Ghosh, P.C. (154) 184)
- Current distribution
 - Grid design; Cylindrical lead-acid cell (Křivák, P. (154) 518)
- Current distribution
 - Polymer electrolyte fuel cell; Lateral currents; Finite element modelling; Measurement uncertainty (Eckl, R. (154) 171)
- Cycling in state of partial charge
 - VRLA batteries; Balance hydrogen evolution and grid corrosion (Berndt, D. (154) 509)
- Cylindrical lead-acid cell
 - Grid design; Current distribution (Křivák, P. (154) 518)
- Degradation
 - PEMFC; Cold start; Portable fuel cells; Statistical analysis (Oszcipok, M. (154) 404)
- Degradation
 - Solid oxide fuel cells; Dynamic behaviour; Cathode activation; Thermal cycling (Molinelli, M. (154) 394)
- DEMS
 - Ethanol oxidation; Pt/Vulcan; PtRu/Vulcan; Pt₃Sn/Vulcan; Product distribution (Wang, H. (154) 351)
- Diesel
 - Diesel; Kerosene; Autothermal reforming; Fuel cell; Auxiliary power unit (Aicher, T. (154) 503)
- Diesel fuel processor
 - Diesel fuel processor; Autothermal reforming; Steam reforming; PEM fuel cells; APU (Cutillo, A. (154) 379)
- Diesel reformate
 - SOFC stack; Auxiliary power unit (Stelter, M. (154) 448)
- Diesel reformer
 - APU; SOFC (Lawrence, J. (154) 479)

- Diesel reforming
Hydrogen; Autothermal reforming; Fuel processing; Sulfur poisoning; Catalyst (Cheekatamarla, P.K. (154) 223)
- Direct fuel cell
Direct fuel cell; Architecture; Passive; Bi-cell; Flow field; MEA morphology (Qian, W. (154) 202)
- Direct methanol fuel cell (DMFC)
Direct methanol fuel cell (DMFC); Membrane; Nafion®; Methanol crossover (Li, X. (154) 115)
- DMcT
Polyaniline; Carbon fiber; Composites; Charge–discharge tests (Canobre, S.C. (154) 281)
- DMFC
DMFC; System analysis; Transfer function; Reduced model; Transient response; Dynamic operation (Krewer, U. (154) 153)
- Double-phase electrolyte (DPE)
Double-phase electrolyte (DPE); Fuel cell; NiAl; NaOH; Enhanced output power (Hu, J. (154) 106)
- Dynamic behaviour
Solid oxide fuel cells; Cathode activation; Thermal cycling; Degradation (Molinelli, M. (154) 394)
- Dynamic modelling
PEM fuel cell; Hardware in the loop; Test benches; Simulation (Lemeš, Z. (154) 386)
- Dynamic operation
DMFC; System analysis; Transfer function; Reduced model; Transient response (Krewer, U. (154) 153)
- Dynamic operation
PEFC; PEMFC; Fuel cell; Power train; Air supply (Philipps, F. (154) 412)
- Efficiency
Gasoline reforming; System configuration; Recirculation (Schäfer, J. (154) 428)
- EIS
PEM; Fuel cell; Stack; Impedance (Hakenjos, A. (154) 360)
- Electro-catalyst
Nickel-zeolite; Impregnated silicalite-1; Methanol oxidation; Alkaline solution (Abdel Rahim, M.A. (154) 59)
- Electrochemical capacitor
Electrochemical capacitor; Activated carbon; Microporosity; Surface area; Surface oxygen; Calorimetry (Centeno, T.A. (154) 314)
- Electrochemical double-layer capacitor
Electrochemical double-layer capacitor; Impedance; Propylene carbonate; Activated carbon; Arrhenius (Kötz, R. (154) 550)
- Electrochemical properties
Li ion batteries; Cathode materials; Sol–gel synthesis (Majumder, S.B. (154) 262)
- Electrode
Nafion®; PEM fuel cell; High temperature (Song, Y. (154) 138)
- Electrolyte
Lithium cell; Safety; Overcharge (Watanabe, Y. (154) 246)
- Elevated-temperature cycling
o-LiMnO₂ cathode; Li and F additions; Lithium-ion batteries; Capacity fading; Rate capability (Kim, T.-J. (154) 268)
- Energy density
Hydrogen; Cryogenic; High pressure; Hydrides; Tank systems (Eberle, U. (154) 456)
- Enhanced output power
Double-phase electrolyte (DPE); Fuel cell; NiAl; NaOH (Hu, J. (154) 106)
- Ethanol oxidation
Ethanol oxidation; Pt/Vulcan; PtRu/Vulcan; Pt₃Sn/Vulcan; DEMS; Product distribution (Wang, H. (154) 351)
- European union research
Oil; Hydrogen; Fuel cells; Cost; Reliability (Zegers, P. (154) 497)
- Exchange current density
Structure characteristics; High-rate dischargeability; Low-temperature dischargeability; Hydrogen diffusion coefficient (Zhang, X. (154) 290)
- Fast start
Fuel processor; Reformer; Hydrogen; Gasoline; Automotive fuel cell (Ahmed, S. (154) 214)
- Fibrous media
PEM fuel cell; Gas diffusion layer; Two-phase flow; Visualization; Microscale; Hydrophobic porous media (Litster, S. (154) 95)
- Field tests
Molten carbonate fuel cells; Commercialisation (Bischoff, M. (154) 461)
- Finite element modelling
Polymer electrolyte fuel cell; Current distribution; Lateral currents; Measurement uncertainty (Eckl, R. (154) 171)
- Flow field
Direct fuel cell; Architecture; Passive; Bi-cell; MEA morphology (Qian, W. (154) 202)
- Free-breathing
PEMFC; Freezing; Cold-start; Planar cell (Hottinen, T. (154) 86)
- Freezing
PEMFC; Free-breathing; Cold-start; Planar cell (Hottinen, T. (154) 86)
- Frequency characteristics
Ultracapacitors; Ultracap modules; Temperature characteristics; Selfdischarge; Cell voltage balancing (Michel, H. (154) 556)
- Fuel cell
Diesel; Kerosene; Autothermal reforming; Auxiliary power unit (Aicher, T. (154) 503)
- Fuel cell
Double-phase electrolyte (DPE); NiAl; NaOH; Enhanced output power (Hu, J. (154) 106)
- Fuel cell
Neural network; Artificial intelligence (Ogaji, S.O.T. (154) 192)
- Fuel cell
PEFC; PEMFC; Power train; Dynamic operation; Air supply (Philipps, F. (154) 412)
- Fuel cell
PEM; Stack; Impedance; EIS (Hakenjos, A. (154) 360)
- Fuel cell systems
Fuel cell systems; Simulation; Control; Rapid; Prototyping; Air supply; Fuel processing (Pischinger, S. (154) 420)
- Fuel cells
Biomass; Biofuels; Organic waste; Reformers (Gair, S. (154) 472)
- Fuel cells
Fuel cells; Ceria; Copper; Anodes (Jung, S. (154) 42)
- Fuel cells
Fuel cells; Proton exchange membrane; PVDF; SEBS; Melt blending; Compatibilization (Mokrini, A. (154) 51)
- Fuel cells
Oil; Hydrogen; Cost; Reliability; European union research (Zegers, P. (154) 497)
- Fuel processing
Fuel cell systems; Simulation; Control; Rapid; Prototyping; Air supply (Pischinger, S. (154) 420)
- Fuel processing
Hydrogen; Autothermal reforming; Sulfur poisoning; Diesel reforming; Catalyst (Cheekatamarla, P.K. (154) 223)
- Fuel processor
Fuel processor; Fast start; Reformer; Hydrogen; Gasoline; Automotive fuel cell (Ahmed, S. (154) 214)
- Fuel reforming
Fuel reforming; PEM fuel cell; Hydrogen production (Ersoz, A. (154) 67)
- Gas diffusion layer
PEFC; Numerical analysis; Current density distribution; Relative humidity distribution; Membrane (Inoue, G. (154) 8)
- Gas diffusion layer
PEM fuel cell; Two-phase flow; Visualization; Microscale; Hydrophobic porous media; Fibrous media (Litster, S. (154) 95)
- Gas flow rate distribution
PEFC; Numerical analysis; Current density distribution; Separator (Inoue, G. (154) 18)

- Gasoline
 Fuel processor; Fast start; Reformer; Hydrogen; Automotive fuel cell (Ahmed, S. (154) 214)
- Gasoline fuel processor
 Gasoline fuel processor; On-board hydrogen production; Automotive; Polymer electrolyte membrane fuel cell; Response time; Battery size (Mitchell, W. (154) 489)
- Gasoline reforming
 Gasoline reforming; Efficiency; System configuration; Recirculation (Schäfer, J. (154) 428)
- Gel polymer electrolyte
 Lithium bis(oxalate)borate; Microporous gel electrolyte; Polymer Li-ion battery; High temperature performance (Zhang, S.S. (154) 276)
- Geometry variation
 Air-breathing PEMFC; Water management; Planar PEMFC; Hydrophobic and hydrophilic diffusion layer; Printed circuit board (PCB) (Schmitz, A. (154) 437)
- Graphite composite
 Bipolar plate; Injection moulding (Müller, A. (154) 467)
- Grid design
 Grid design; Current distribution; Cylindrical lead-acid cell (Křivák, P. (154) 518)
- H_2/CO_2 oxidation
 Polymer electrolyte fuel cell; Air bleed; Catalyst poisoning; Temperature effects; Model studies (Behm, R.J. (154) 327)
- Hammerstein systems
 Hammerstein systems; Nonlinear systems; Parameter estimation; Solid oxide fuel cells; System identification (Jurado, F. (154) 145)
- Hardware in the loop
 PEM fuel cell; Dynamic modelling; Test benches; Simulation (Lemeš, Z. (154) 386)
- Heat/mass transport
 Mechanistic modelling; Tubular SOFC; Cathode-supported; Momentum transport; Charge transport (Suwanwarangkul, R. (154) 74)
- High pressure
 Hydrogen; Cryogenic; Hydrides; Energy density; Tank systems (Eberle, U. (154) 456)
- High temperature
 Nafion®; PEM fuel cell; Electrode (Song, Y. (154) 138)
- High temperature
 VRLA; Low temperature; Idling stop (Ohmae, T. (154) 523)
- High temperature performance
 Lithium bis(oxalate)borate; Microporous gel electrolyte; Gel polymer electrolyte; Polymer Li-ion battery (Zhang, S.S. (154) 276)
- High-rate dischargeability
 Structure characteristics; Low-temperature dischargeability; Exchange current density; Hydrogen diffusion coefficient (Zhang, X. (154) 290)
- Hybrid battery
 Alkaline battery; Nickel metal hydride; Battery management; Battery monitoring; Bipolar battery (Markolf, R. (154) 539)
- Hydrides
 Hydrogen; Cryogenic; High pressure; Energy density; Tank systems (Eberle, U. (154) 456)
- Hydrogen
 Fuel processor; Fast start; Reformer; Gasoline; Automotive fuel cell (Ahmed, S. (154) 214)
- Hydrogen
 Hydrogen; Autothermal reforming; Fuel processing; Sulfur poisoning; Diesel reforming; Catalyst (Cheekatamarla, P.K. (154) 223)
- Hydrogen
 Hydrogen; Cryogenic; High pressure; Hydrides; Energy density; Tank systems (Eberle, U. (154) 456)
- Hydrogen
 Oil; Fuel cells; Cost; Reliability; European union research (Zegers, P. (154) 497)
- Hydrogen diffusion coefficient
 Structure characteristics; High-rate dischargeability; Low-temperature dischargeability; Exchange current density (Zhang, X. (154) 290)
- Hydrogen oxidation
 PEM fuel cells; Ammonia poisoning; Membrane conductivity; Oxygen reduction (Halseid, R. (154) 343)
- Hydrogen production
 Fuel reforming; PEM fuel cell (Ersoz, A. (154) 67)
- Hydrophobic porous media
 PEM fuel cell; Gas diffusion layer; Two-phase flow; Visualization; Microscale; Fibrous media (Litster, S. (154) 95)
- Hydrophobic and hydrophilic diffusion layer
 Air-breathing PEMFC; Water management; Planar PEMFC; Geometry variation; Printed circuit board (PCB) (Schmitz, A. (154) 437)
- Idling stop
 VRLA; High temperature; Low temperature (Ohmae, T. (154) 523)
- Impedance
 Electrochemical double-layer capacitor; Propylene carbonate; Activated carbon; Arrhenius (Kötz, R. (154) 550)
- Impedance
 PEM; Fuel cell; Stack; EIS (Hakenjos, A. (154) 360)
- Impedance spectroscopy
 Solid electrolyte; Ceria; Co-doping; Microstructure (Tadokoro, S.K. (154) 1)
- Impregnated silicalite-1
 Nickel-zeolite; Electro-catalyst; Methanol oxidation; Alkaline solution (Abdel Rahim, M.A. (154) 59)
- In situ measurement
 Polymer electrolyte fuel cell; Current density distribution (Ghosh, P.C. (154) 184)
- Injection moulding
 Bipolar plate; Graphite composite (Müller, A. (154) 467)
- Integration
 Miniature fuel cell; Porous silicon; Membrane; Chemical grafting; Nafion® (Pichonat, T. (154) 198)
- Interconnection
 SOFC; Bi-layer; p-Type; n-Type (Huang, W. (154) 180)
- Ionic liquids
 Pyrazolium imide; Plastic crystals; Solid electrolytes; Lithium batteries (Abu-Lebdeh, Y. (154) 255)
- I*-*V* characteristic
 Photovoltaic panel; Linear MOSFET; Maximum power point (Kuai, Y. (154) 308)
- Kerosene
 Diesel; Autothermal reforming; Fuel cell; Auxiliary power unit (Aicher, T. (154) 503)
- Lateral currents
 Polymer electrolyte fuel cell; Current distribution; Finite element modelling; Measurement uncertainty (Eckl, R. (154) 171)
- Li and F additions
 o-LiMnO₂ cathode; Elevated-temperature cycling; Lithium-ion batteries; Capacity fading; Rate capability (Kim, T.-J. (154) 268)
- Li ion batteries
 Li ion batteries; Cathode materials; Electrochemical properties; Sol-gel synthesis (Majumder, S.B. (154) 262)
- Li₄Ti₅O₁₂
 Anode; Li-ion batteries; Rate; Conductivity (Wolfenstine, J. (154) 287)
- LiAl_{0.1}Mn_{1.9}O₄
 Lithium-ion batteries; Spinel-type; Microwave (Bao, S.-J. (154) 239)
- Li-ion batteries
 Anode; Li₄Ti₅O₁₂; Rate; Conductivity (Wolfenstine, J. (154) 287)
- Li-ion batteries
 Chemical diffusion coefficient; All-solid-state batteries (Schwenzel, J. (154) 232)
- Linear MOSFET
 Photovoltaic panel; *I*-*V* characteristic; Maximum power point (Kuai, Y. (154) 308)
- Lithium batteries
 Pyrazolium imide; Plastic crystals; Solid electrolytes; Ionic liquids (Abu-Lebdeh, Y. (154) 255)

- Lithium bis(oxalate)borate
Lithium bis(oxalate)borate; Microporous gel electrolyte; Gel polymer electrolyte; Polymer Li-ion battery; High temperature performance (Zhang, S.S. (154) 276)
- Lithium cell
Lithium cell; Safety; Overcharge; Electrolyte (Watanabe, Y. (154) 246)
- Lithium-ion batteries
Lithium-ion batteries; Spinel-type; $\text{LiAl}_{0.1}\text{Mn}_{1.9}\text{O}_4$; Microwave (Bao, S.-J. (154) 239)
- Lithium-ion batteries
o- LiMnO_2 cathode; Li and F additions; Elevated-temperature cycling; Capacity fading; Rate capability (Kim, T.-J. (154) 268)
- Low temperature
VRLA; High temperature; Idling stop (Ohmae, T. (154) 523)
- Low-temperature dischargeability
Structure characteristics; High-rate dischargeability; Exchange current density; Hydrogen diffusion coefficient (Zhang, X. (154) 290)
- Macro modelling
Micro single-chamber intermediate temperature solid oxide fuel cell; Computer simulation; Polarization curve prediction (Chung, C.-Y. (154) 35)
- Maximum power point
Photovoltaic panel; *I*-*V* characteristic; Linear MOSFET (Kuai, Y. (154) 308)
- MEA morphology
Direct fuel cell; Architecture; Passive; Bi-cell; Flow field (Qian, W. (154) 202)
- Measurement uncertainty
Polymer electrolyte fuel cell; Current distribution; Lateral currents; Finite element modelling (Eckl, R. (154) 171)
- Mechanistic modelling
Mechanistic modelling; Tubular SOFC; Cathode-supported; Momentum transport; Heat/mass transport; Charge transport (Suwanwarangkul, R. (154) 74)
- Melt blending
Fuel cells; Proton exchange membrane; PVDF; SEBS; Compatibilization (Mokrini, A. (154) 51)
- Membrane
Direct methanol fuel cell (DFMC); Nafion®; Methanol crossover (Li, X. (154) 115)
- Membrane
Miniature fuel cell; Porous silicon; Chemical grafting; Nafion®; Integration (Pichonat, T. (154) 198)
- Membrane
PEFC; Numerical analysis; Current density distribution; Relative humidity distribution; Gas diffusion layer (Inoue, G. (154) 8)
- Membrane conductivity
PEM fuel cells; Ammonia poisoning; Hydrogen oxidation; Oxygen reduction (Halseid, R. (154) 343)
- Methanol crossover
Direct methanol fuel cell (DFMC); Membrane; Nafion® (Li, X. (154) 115)
- Methanol oxidation
Nickel-zeolite; Impregnated silicalite-1; Electro-catalyst; Alkaline solution (Abdel Rahim, M.A. (154) 59)
- Micro single-chamber intermediate temperature solid oxide fuel cell
Micro single-chamber intermediate temperature solid oxide fuel cell; Computer simulation; Macro modelling; Polarization curve prediction (Chung, C.-Y. (154) 35)
- Microporosity
Electrochemical capacitor; Activated carbon; Surface area; Surface oxygen; Calorimetry (Centeno, T.A. (154) 314)
- Microporous gel electrolyte
Lithium bis(oxalate)borate; Gel polymer electrolyte; Polymer Li-ion battery; High temperature performance (Zhang, S.S. (154) 276)
- Microscale
PEM fuel cell; Gas diffusion layer; Two-phase flow; Visualization; Hydrophobic porous media; Fibrous media (Litster, S. (154) 95)
- Microstructure
Solid electrolyte; Ceria; Co-doping; Impedance spectroscopy (Tadokoro, S.K. (154) 1)
- Microwave
Lithium-ion batteries; Spinel-type; $\text{LiAl}_{0.1}\text{Mn}_{1.9}\text{O}_4$ (Bao, S.-J. (154) 239)
- Miniature fuel cell
Miniature fuel cell; Porous silicon; Membrane; Chemical grafting; Nafion®; Integration (Pichonat, T. (154) 198)
- Model studies
Polymer electrolyte fuel cell; H_2/CO_2 oxidation; Air bleed; Catalyst poisoning; Temperature effects (Behm, R.J. (154) 327)
- Molten carbonate fuel cells
Molten carbonate fuel cells; Commercialisation; Field tests (Bischoff, M. (154) 461)
- Momentum transport
Mechanistic modelling; Tubular SOFC; Cathode-supported; Heat/mass transport; Charge transport (Suwanwarangkul, R. (154) 74)
- Nafion®
Direct methanol fuel cell (DFMC); Membrane; Methanol crossover (Li, X. (154) 115)
- Nafion®
Miniature fuel cell; Porous silicon; Membrane; Chemical grafting; Integration (Pichonat, T. (154) 198)
- Nafion®
Nafion®; PEM fuel cell; High temperature; Electrode (Song, Y. (154) 138)
- NaOH
Double-phase electrolyte (DPE); Fuel cell; NiAl; Enhanced output power (Hu, J. (154) 106)
- Neural network
Neural network; Artificial intelligence; Fuel cell (Ogaji, S.O.T. (154) 192)
- NiAl
Double-phase electrolyte (DPE); Fuel cell; NaOH; Enhanced output power (Hu, J. (154) 106)
- Nickel metal hydride
Alkaline battery; Hybrid battery; Battery management; Battery monitoring; Bipolar battery (Markolf, R. (154) 539)
- Nickel-zeolite
Nickel-zeolite; Impregnated silicalite-1; Electro-catalyst; Methanol oxidation; Alkaline solution (Abdel Rahim, M.A. (154) 59)
- Nonlinear systems
Hammerstein systems; Parameter estimation; Solid oxide fuel cells; System identification (Jurado, F. (154) 145)
- n-Type
SOFC; Interconnection; Bi-layer; p-Type (Huang, W. (154) 180)
- Numerical analysis
PEFC; Current density distribution; Gas flow rate distribution; Separator (Inoue, G. (154) 18)
- Numerical analysis
PEFC; Current density distribution; Relative humidity distribution; Membrane; Gas diffusion layer (Inoue, G. (154) 8)
- Oil
Oil; Hydrogen; Fuel cells; Cost; Reliability; European union research (Zegers, P. (154) 497)
- o*- LiMnO_2 cathode
o- LiMnO_2 cathode; Li and F additions; Elevated-temperature cycling; Lithium-ion batteries; Capacity fading; Rate capability (Kim, T.-J. (154) 268)
- On-board hydrogen production
Gasoline fuel processor; Automotive; Polymer electrolyte membrane fuel cell; Response time; Battery size (Mitchell, W. (154) 489)
- Organic waste
Biomass; Biofuels; Fuel cells; Reformers (Gair, S. (154) 472)
- Overcharge
Lithium cell; Safety; Electrolyte (Watanabe, Y. (154) 246)
- Oxygen deficiency
Oxygen deficiency; Spinel; 3.2 V plateau; Structure around deficiency (Yoshio, M. (154) 273)

- Oxygen reduction
 PEM fuel cells; Ammonia poisoning; Membrane conductivity; Hydrogen oxidation (Halseid, R. (154) 343)
- Oxygen reduction catalysts
 Proton exchange membrane fuel cell (Sarı Ozenler, S. (154) 364)
- Parallel serpentine channels
 Water management; Proton exchange membrane; Pressure drop; Air–water behaviour; CFD modeling (Jiao, K. (154) 124)
- Parameter estimation
 Hammerstein systems; Nonlinear systems; Solid oxide fuel cells; System identification (Jurado, F. (154) 145)
- Passive
 Direct fuel cell; Architecture; Bi-cell; Flow field; MEA morphology (Qian, W. (154) 202)
- PEFC
 PEFC; Numerical analysis; Current density distribution; Gas flow rate distribution; Separator (Inoue, G. (154) 18)
- PEFC
 PEFC; Numerical analysis; Current density distribution; Relative humidity distribution; Membrane; Gas diffusion layer (Inoue, G. (154) 8)
- PEFC
 PEFC; PEMFC; Fuel cell; Power train; Dynamic operation; Air supply (Philipps, F. (154) 412)
- PEM
 PEM; Fuel cell; Stack; Impedance; EIS (Hakenjos, A. (154) 360)
- PEM fuel cell
 Fuel reforming; Hydrogen production (Ersoz, A. (154) 67)
- PEM fuel cell
 Nafion[®]; High temperature; Electrode (Song, Y. (154) 138)
- PEM fuel cell
 PEM fuel cell; Dynamic modelling; Hardware in the loop; Test benches; Simulation (Lemeš, Z. (154) 386)
- PEM fuel cell
 PEM fuel cell; Gas diffusion layer; Two-phase flow; Visualization; Microscale; Hydrophobic porous media; Fibrous media (Litster, S. (154) 95)
- PEM fuel cells
 Diesel fuel processor; Autothermal reforming; Steam reforming; APU (Cuttillo, A. (154) 379)
- PEM fuel cells
 PEM fuel cells; Ammonia poisoning; Membrane conductivity; Hydrogen oxidation; Oxygen reduction (Halseid, R. (154) 343)
- PEMFC
 PEFC; Fuel cell; Power train; Dynamic operation; Air supply (Philipps, F. (154) 412)
- PEMFC
 PEMFC; Cold start; Portable fuel cells; Statistical analysis; Degradation (Oszcipok, M. (154) 404)
- PEMFC
 PEMFC; Free-breathing; Freezing; Cold-start; Planar cell (Hottinen, T. (154) 86)
- Photovoltaic panel
 Photovoltaic panel; *I*–*V* characteristic; Linear MOSFET; Maximum power point (Kuai, Y. (154) 308)
- Planar cell
 PEMFC; Free-breathing; Freezing; Cold-start (Hottinen, T. (154) 86)
- Planar PEMFC
 Air-breathing PEMFC; Water management; Hydrophobic and hydrophilic diffusion layer; Geometry variation; Printed circuit board (PCB) (Schmitz, A. (154) 437)
- Plastic crystals
 Pyrazolium imide; Solid electrolytes; Ionic liquids; Lithium batteries (Abu-Lebdeh, Y. (154) 255)
- Polarization curve prediction
 Micro single-chamber intermediate temperature solid oxide fuel cell; Computer simulation; Macro modelling (Chung, C.-Y. (154) 35)
- Polyaniline
 Polyaniline; Carbon fiber; DMcT; Composites; Charge–discharge tests (Canobre, S.C. (154) 281)
- Polymer electrolyte fuel cell
 Polymer electrolyte fuel cell; Current density distribution; In situ measurement (Ghosh, P.C. (154) 184)
- Polymer electrolyte fuel cell
 Polymer electrolyte fuel cell; Current distribution; Lateral currents; Finite element modelling; Measurement uncertainty (Eckl, R. (154) 171)
- Polymer electrolyte fuel cell
 Polymer electrolyte fuel cell; H₂/CO₂ oxidation; Air bleed; Catalyst poisoning; Temperature effects; Model studies (Behm, R.J. (154) 327)
- Polymer electrolyte membrane fuel cell
 Gasoline fuel processor; On-board hydrogen production; Automotive; Response time; Battery size (Mitchell, W. (154) 489)
- Polymer Li-ion battery
 Lithium bis(oxalate)borate; Microporous gel electrolyte; Gel polymer electrolyte; High temperature performance (Zhang, S.S. (154) 276)
- Porous silicon
 Miniature fuel cell; Membrane; Chemical grafting; Nafion[®]; Integration (Pichonat, T. (154) 198)
- Portable fuel cells
 PEMFC; Cold start; Statistical analysis; Degradation (Oszcipok, M. (154) 404)
- Power train
 PEFC; PEMFC; Fuel cell; Dynamic operation; Air supply (Philipps, F. (154) 412)
- Pressure drop
 Water management; Proton exchange membrane; Parallel serpentine channels; Air–water behaviour; CFD modeling (Jiao, K. (154) 124)
- Printed circuit board (PCB)
 Air-breathing PEMFC; Water management; Planar PEMFC; Hydrophobic and hydrophilic diffusion layer; Geometry variation (Schmitz, A. (154) 437)
- Product distribution
 Ethanol oxidation; Pt/Vulcan; PtRu/Vulcan; Pt₃Sn/Vulcan; DEMS (Wang, H. (154) 351)
- Propylene carbonate
 Electrochemical double-layer capacitor; Impedance; Activated carbon; Arrhenius (Kötz, R. (154) 550)
- Proton exchange membrane
 Fuel cells; PVDF; SEBS; Melt blending; Compatibilization (Mokrini, A. (154) 51)
- Proton exchange membrane
 Water management; Pressure drop; Parallel serpentine channels; Air–water behaviour; CFD modeling (Jiao, K. (154) 124)
- Proton exchange membrane fuel cell
 Proton exchange membrane fuel cell; Oxygen reduction catalysts (Sarı Ozenler, S. (154) 364)
- Prototyping
 Fuel cell systems; Simulation; Control; Rapid; Air supply; Fuel processing (Pischinger, S. (154) 420)
- Pt/Vulcan
 Ethanol oxidation; PtRu/Vulcan; Pt₃Sn/Vulcan; DEMS; Product distribution (Wang, H. (154) 351)
- Pt₃Sn/Vulcan
 Ethanol oxidation; Pt/Vulcan; PtRu/Vulcan; DEMS; Product distribution (Wang, H. (154) 351)
- PtRu/Vulcan
 Ethanol oxidation; Pt/Vulcan; Pt₃Sn/Vulcan; DEMS; Product distribution (Wang, H. (154) 351)
- p-Type
 SOFC; Interconnection; Bi-layer; n-Type (Huang, W. (154) 180)
- PVDF
 Fuel cells; Proton exchange membrane; SEBS; Melt blending; Compatibilization (Mokrini, A. (154) 51)
- Pyrazolium imide
 Pyrazolium imide; Plastic crystals; Solid electrolytes; Ionic liquids; Lithium batteries (Abu-Lebdeh, Y. (154) 255)

- Rapid
Fuel cell systems; Simulation; Control; Prototyping; Air supply; Fuel processing (Pischinger, S. (154) 420)
- Rate
Anode; Li-ion batteries; $\text{Li}_4\text{Ti}_5\text{O}_{12}$; Conductivity (Wolfenstine, J. (154) 287)
- Rate capability
o- LiMnO_2 cathode; Li and F additions; Elevated-temperature cycling; Lithium-ion batteries; Capacity fading (Kim, T.-J. (154) 268)
- Rechargeable bipolar battery
Rechargeable bipolar battery; Zn-polyaniline; Carbon doped polyethylene (CDPE); Battery available capacity (BAC); ANN modeling; Simultaneous prediction (Karami, H. (154) 298)
- Recirculation
Gasoline reforming; Efficiency; System configuration (Schäfer, J. (154) 428)
- Reduced model
DMFC; System analysis; Transfer function; Transient response; Dynamic operation (Krewer, U. (154) 153)
- Reformer
Fuel processor; Fast start; Hydrogen; Gasoline; Automotive fuel cell (Ahmed, S. (154) 214)
- Reformers
Biomass; Biofuels; Organic waste; Fuel cells (Gair, S. (154) 472)
- Relative humidity distribution
PEFC; Numerical analysis; Current density distribution; Membrane; Gas diffusion layer (Inoue, G. (154) 8)
- Reliability
Oil; Hydrogen; Fuel cells; Cost; European union research (Zegers, P. (154) 497)
- Renewable energies
Renewable energies; Thermal behaviour; Storage technologies (Perrin, M. (154) 545)
- Response time
Gasoline fuel processor; On-board hydrogen production; Automotive; Polymer electrolyte membrane fuel cell; Battery size (Mitchell, W. (154) 489)
- Safety
Lithium cell; Overcharge; Electrolyte (Watanabe, Y. (154) 246)
- SEBS
Fuel cells; Proton exchange membrane; PVDF; Melt blending; Compatibilization (Mokrin, A. (154) 51)
- Selfdischarge
Ultracapacitors; Ultracap modules; Temperature characteristics; Frequency characteristics; Cell voltage balancing (Michel, H. (154) 556)
- Separator
PEFC; Numerical analysis; Current density distribution; Gas flow rate distribution (Inoue, G. (154) 18)
- Simulation
Fuel cell systems; Control; Rapid; Prototyping; Air supply; Fuel processing (Pischinger, S. (154) 420)
- Simulation
PEM fuel cell; Dynamic modelling; Hardware in the loop; Test benches (Lemeš, Z. (154) 386)
- Simultaneous prediction
Rechargeable bipolar battery; Zn-polyaniline; Carbon doped polyethylene (CDPE); Battery available capacity (BAC); ANN modeling (Karami, H. (154) 298)
- SOFC
APU; Diesel reformer (Lawrence, J. (154) 479)
- SOFC
SOFC; Interconnection; Bi-layer; p-Type; n-Type (Huang, W. (154) 180)
- SOFC
SOFC; Thermal management; Start-up (Apfel, H. (154) 370)
- SOFC stack
SOFC stack; Auxiliary power unit; Diesel reformat (Stelter, M. (154) 448)
- Sol-gel synthesis
Li ion batteries; Cathode materials; Electrochemical properties (Majumder, S.B. (154) 262)
- Solid electrolyte
Solid electrolyte; Ceria; Co-doping; Microstructure; Impedance spectroscopy (Tadokoro, S.K. (154) 1)
- Solid electrolytes
Pyrazolium imide; Plastic crystals; Ionic liquids; Lithium batteries (Abu-Lebdeh, Y. (154) 255)
- Solid oxide fuel cells
Hammerstein systems; Nonlinear systems; Parameter estimation; System identification (Jurado, F. (154) 145)
- Solid oxide fuel cells
Solid oxide fuel cells; Dynamic behaviour; Cathode activation; Thermal cycling; Degradation (Molinelli, M. (154) 394)
- Spinel
Oxygen deficiency; 3.2 V plateau; Structure around deficiency (Yoshio, M. (154) 273)
- Spinel-type
Lithium-ion batteries; $\text{LiAl}_{0.1}\text{Mn}_{1.9}\text{O}_4$; Microwave (Bao, S.-J. (154) 239)
- Stack
PEM; Fuel cell; Impedance; EIS (Hakenjos, A. (154) 360)
- Start-up
SOFC; Thermal management (Apfel, H. (154) 370)
- State of charge
Battery dynamic; Battery impedance; State of health (Jossen, A. (154) 530)
- State of health
Battery dynamic; Battery impedance; State of charge (Jossen, A. (154) 530)
- Statistical analysis
PEMFC; Cold start; Portable fuel cells; Degradation (Oszcipok, M. (154) 404)
- Steam reforming
Diesel fuel processor; Autothermal reforming; PEM fuel cells; APU (Cutillo, A. (154) 379)
- Storage technologies
Renewable energies; Thermal behaviour (Perrin, M. (154) 545)
- Structure around deficiency
Oxygen deficiency; Spinel; 3.2 V plateau (Yoshio, M. (154) 273)
- Structure characteristics
Structure characteristics; High-rate dischargeability; Low-temperature dischargeability; Exchange current density; Hydrogen diffusion coefficient (Zhang, X. (154) 290)
- Sulfur poisoning
Hydrogen; Autothermal reforming; Fuel processing; Diesel reforming; Catalyst (Cheekatamarla, P.K. (154) 223)
- Surface area
Electrochemical capacitor; Activated carbon; Microporosity; Surface oxygen; Calorimetry (Centeno, T.A. (154) 314)
- Surface oxygen
Electrochemical capacitor; Activated carbon; Microporosity; Surface area; Calorimetry (Centeno, T.A. (154) 314)
- System analysis
DMFC; Transfer function; Reduced model; Transient response; Dynamic operation (Krewer, U. (154) 153)
- System configuration
Gasoline reforming; Efficiency; Recirculation (Schäfer, J. (154) 428)
- System identification
Hammerstein systems; Nonlinear systems; Parameter estimation; Solid oxide fuel cells (Jurado, F. (154) 145)
- Tank systems
Hydrogen; Cryogenic; High pressure; Hydrides; Energy density (Eberle, U. (154) 456)
- Temperature characteristics
Ultracapacitors; Ultracap modules; Frequency characteristics; Selfdischarge; Cell voltage balancing (Michel, H. (154) 556)

Temperature effects

Polymer electrolyte fuel cell; H₂/CO₂ oxidation; Air bleed; Catalyst poisoning; Model studies (Behm, R.J. (154) 327)

Test benches

PEM fuel cell; Dynamic modelling; Hardware in the loop; Simulation (Lemeš, Z. (154) 386)

Test procedures

Ultracapacitors; Automotive applications; Automotive specifications; United States Advanced Battery Consortium (Ashtiani, C. (154) 561)

Thermal behaviour

Renewable energies; Storage technologies (Perrin, M. (154) 545)

Thermal cycling

Solid oxide fuel cells; Dynamic behaviour; Cathode activation; Degradation (Molinelli, M. (154) 394)

Thermal management

SOFC; Start-up (Apfel, H. (154) 370)

Transfer function

DMFC; System analysis; Reduced model; Transient response; Dynamic operation (Krewer, U. (154) 153)

Transient response

DMFC; System analysis; Transfer function; Reduced model; Dynamic operation (Krewer, U. (154) 153)

Tubular SOFC

Mechanistic modelling; Cathode-supported; Momentum transport; Heat/mass transport; Charge transport (Suwanwarangkul, R. (154) 74)

Two-phase flow

PEM fuel cell; Gas diffusion layer; Visualization; Microscale; Hydrophobic porous media; Fibrous media (Litster, S. (154) 95)

Ultracap modules

Ultracapacitors; Temperature characteristics; Frequency characteristics; Selfdischarge; Cell voltage balancing (Michel, H. (154) 556)

Ultracapacitors

Ultracapacitors; Test procedures; Automotive applications; Automotive specifications; United States Advanced Battery Consortium (Ashtiani, C. (154) 561)

Ultracapacitors

Ultracapacitors; Ultracap modules; Temperature characteristics; Frequency characteristics; Selfdischarge; Cell voltage balancing (Michel, H. (154) 556)

United States Advanced Battery Consortium

Ultracapacitors; Test procedures; Automotive applications; Automotive specifications (Ashtiani, C. (154) 561)

Visualization

PEM fuel cell; Gas diffusion layer; Two-phase flow; Microscale; Hydrophobic porous media; Fibrous media (Litster, S. (154) 95)

3.2 V plateau

Oxygen deficiency; Spinel; Structure around deficiency (Yoshio, M. (154) 273)

VRLA

VRLA; High temperature; Low temperature; Idling stop (Ohmae, T. (154) 523)

VRLA batteries

VRLA batteries; Cycling in state of partial charge; Balance hydrogen evolution and grid corrosion (Berndt, D. (154) 509)

Water management

Air-breathing PEMFC; Planar PEMFC; Hydrophobic and hydrophilic diffusion layer; Geometry variation; Printed circuit board (PCB) (Schmitz, A. (154) 437)

Water management

Water management; Proton exchange membrane; Pressure drop; Parallel serpentine channels; Air–water behaviour; CFD modeling (Jiao, K. (154) 124)

Zn-polyaniline

Rechargeable bipolar battery; Carbon doped polyethylene (CDPE); Battery available capacity (BAC); ANN modeling; Simultaneous prediction (Karami, H. (154) 298)